

# Soil Survey of Western White Pine County Area, Nevada, Parts of White Pine and Eureka Counties

## Volume 1

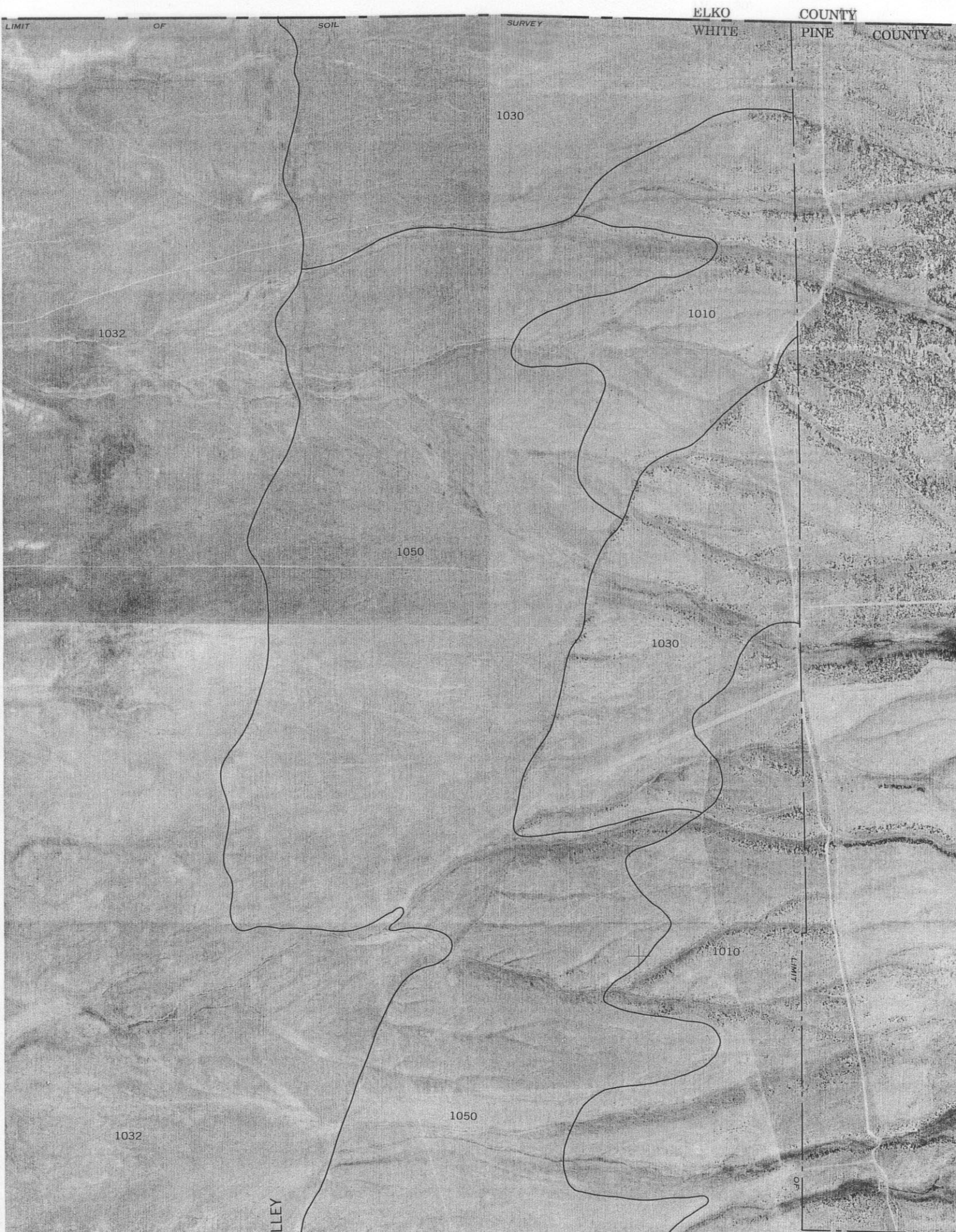
### *Soil & Site Identification Exercise*

1) Find a soil map unit that is a complex *or* association on the map, and list the soil components it includes.

2) Find and list a soil map unit that is *not* a complex or association. Can we assume that all areas within this map unit are the named soil?

3) List the complete ecological site ID for each soil component listed in #2.

4) It is possible for soil series to include components in different ecological sites. Are any of the series on your map in more than one ecological site?





# INDEX to MAP UNITS

752—Upatad-Atlow-Pioche association .....	288	970—Doten association .....	351
753—Upatad-Cropper-Atlow association .....	290	981—Breko-Armespan association .....	352
760—Segura-Upatad-Cropper association .....	292	982—Breko-Yody association .....	354
762—Segura-Eoj-Cassiro association .....	293	990—Blimo-Kunzler-Pern association .....	355
763—Segura-Pioche-Mclvey association .....	295	991—Blimo-Zerk association .....	357
770—Cropper-Birchcreek-Segura association .....	297	992—Blimo-Linoyer-Tulase association .....	359
774—Cropper-Rubble land association .....	299	1000—Linoyer-Unsel association .....	361
780—Bobs-Orr-Urmafot association .....	301	1010—Hunnton-Chiara association .....	362
783—Bobs very gravelly loam, 2 to 8 percent slopes .....	303	1012—Hunnton-Wieland-Kelk association .....	363
790—Bylo-Tulase association .....	304	1020—Sonoma-Kelk association .....	366
793—Bylo silt loam, 0 to 2 percent slopes .....	305	1030—Chiara silt loam, 2 to 15 percent slopes .....	367
800—Broland association .....	306	1032—Chiara-Kelk association .....	368
801—Broland very gravelly loam, 4 to 8 percent slopes .....	308	1050—Yody-Dewar association, cool .....	370
802—Broland-Yody association .....	309	1081—Bobs-Fax-Parisa association .....	372
803—Broland-Broyles association .....	311	1090—Fax-Hunnton-Cassiro association .....	374
810—Yody-Fax association .....	313	1120—Kunzler-Sycomat association .....	376
822—Pits-Dumps complex .....	314	1122—Kunzler-Pern association .....	377
823—Dumps .....	315	1130—Duffer-Equis association .....	379
830—Genaw-Tulase association .....	315	1131—Duffer-Devilsgait association .....	381
842—Orr-Fax association .....	316	1132—Duffer silt loam, 0 to 2 percent slopes .....	383
850—Onkeyo-Pookaloo-Adobe association .....	318	1141—Shabliss-Pyrat association .....	384
851—Grink-Onkeyo-Xine association .....	320	1151—Zimbob-Rock outcrop association .....	385
852—Grink-Onkeyo-Halacan association .....	322	1152—Zimbob-Eaglepass association .....	387
870—Amelar-Eoj association .....	324	1171—Haunchee-Hardol-Halacan association .....	389
871—Amelar-Urmafot association .....	326	1173—Haunchee-Hardol-Rock outcrop association ...	391
874—Amelar-Pookaloo-Tulase association .....	328	1174—Haunchee-Wardbay-Hardzem association .....	392
875—Amelar-Eoj-Hardol association .....	330	1175—Haunchee-Hardol-Hardzem association .....	394
876—Amelar-Xine-Halacan association .....	332	1176—Haunchee-Hardzem-Rock outcrop association .....	396
880—Wredah-Amelar-Orr association .....	334	1178—Haunchee-Hardol-Xine association .....	398
900—Abgese-Roden-Orr association .....	336	1180—Eoj-Mclvey association .....	400
902—Abgese-Risley-Roden association .....	338	1190—Katelana-Boofuss association .....	402
911—Devilsgait-Duffer-Kunzler association .....	340	1201—Biken-Orr association .....	404
913—Devilsgait silt loam, 0 to 2 percent slopes .....	342	1202—Biken-Urmafot association .....	405
920—Abgese-Yody-Shabliss association .....	343	1221—Cavehill-Grink-Onkeyo association .....	407
930—Tosser loam, 0 to 4 percent slopes .....	345	1222—Grink-Amelar-Xine association .....	409
940—Nyak-Heist association .....	346	1230—Garfan-Mclvey-Hutchley association .....	411
951—Nyak-Uwell-Pern association .....	347	1240—Biken association .....	413
960—Doten-Bylo-Heist association .....	349	1242—Biken-Palino-Barfan association .....	415
		1243—Biken-Breko association .....	417

*Position on landscape:* Slightly concave summits of fan piedmont remnants

*Parent material:* Mixed alluvium and some loess and volcanic ash

*Slope range:* 2 to 8 percent

*Elevation:* 5,800 to 6,500 feet

*Dominant present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

#### **Climatic Data**

*Average annual precipitation:* About 9 inches

*Average annual air temperature:* About 48 degrees F

*Frost-free period:* About 110 days

#### **Typical Profile**

*Depth:* 0 to 4 inches

*Texture:* Silt loam

*Structure:* Platy

*Consistence:* Soft, very friable

*Reaction:* Moderately alkaline

*Salinity:* Less than 4 mmhos per cm

*Depth:* 4 to 10 inches

*Texture:* Silty clay loam

*Structure:* Subangular blocky

*Consistence:* Slightly hard, friable

*Reaction:* Moderately alkaline

*Salinity:* Less than 4 mmhos per cm

*Depth:* 10 to 35 inches

*Texture:* Clay

*Structure:* Prismatic parting to angular blocky

*Consistence:* Hard, firm

*Reaction:* Mildly alkaline

*Salinity:* Less than 4 mmhos per cm

*Depth:* 35 to 40 inches

*Texture:* Indurated duripan

*Structure:* Massive

*Consistence:* Extremely hard, extremely firm

#### **Soil and Water Features**

*Depth to a hardpan:* 20 to 40 inches

*Depth to a seasonal high water table:* More than 60 inches

*Frequency of flooding:* None

*Permeability:* Slow

*Available water capacity:* 4.0 to 6.0 inches

*Water-supplying capacity:* 8 to 10 inches

*Runoff:* Slow

*Hydrologic group:* C

*Erosion factors (surface layer):* K value—.49; T value—2; wind erodibility group—5

*Hazard of erosion:* By water—slight; by wind—slight

## **1010—Hunnton-Chiara association**

### **Map Unit Setting**

*Position on landscape:* Fan piedmonts

### **Composition**

*Major components:*

- Hunnton silt loam, 2 to 8 percent slopes—50 percent
- Chiara silt loam, 2 to 8 percent slopes—35 percent

*Contrasting inclusions:*

- Inclusion 1: Durixerollic Camborthids gravelly loam, 2 to 8 percent slopes—5 percent
- Inclusion 2: Wieland silt loam, 2 to 8 percent slopes—5 percent
- Inclusion 3: Dewar gravelly silt loam, 2 to 8 percent slopes—5 percent

### **Characteristics of the Hunnton Soil**

*Classification:* Xerollic Durargids, fine, montmorillonitic, mesic



*Shrink-swell potential:* High  
*Corrosivity:* Steel—high; concrete—low  
*Potential for frost action:* Moderate

### **Characteristics of the Chiara Soil**

*Classification:* Xerollic Durorthids, loamy, mixed, mesic, shallow  
*Position on landscape:* Slightly convex summits of fan piedmont remnants  
*Parent material:* Loess mantle high in content of volcanic ash over mixed alluvium  
*Slope range:* 2 to 8 percent  
*Elevation:* 5,800 to 6,500 feet  
*Dominant present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

### **Climatic Data**

*Average annual precipitation:* About 9 inches  
*Average annual air temperature:* About 48 degrees F  
*Frost-free period:* About 110 days

### **Typical Profile**

*Depth:* 0 to 4 inches  
*Texture:* Silt loam  
*Structure:* Platy  
*Consistence:* Soft, very friable  
*Reaction:* Mildly alkaline  
*Salinity:* Less than 2 mmhos per cm

*Depth:* 4 to 19 inches  
*Texture:* Silt loam  
*Structure:* Subangular blocky  
*Consistence:* Slightly hard, very friable  
*Reaction:* Moderately alkaline  
*Salinity:* 2 to 4 mmhos per cm

*Depth:* 19 inches  
*Texture:* Indurated duripan

### **Soil and Water Features**

*Depth to a hardpan:* 10 to 20 inches  
*Depth to a seasonal high water table:* More than 60 inches  
*Frequency of flooding:* None  
*Permeability:* Moderate  
*Available water capacity:* 3.5 to 4.0 inches  
*Water-supplying capacity:* 8 to 12 inches  
*Runoff:* Slow  
*Hydrologic group:* D  
*Erosion factors (surface layer):* K value—.55; T value—1; wind erodibility group—5  
*Hazard of erosion:* By water—slight; by wind—slight  
*Shrink-swell potential:* Low  
*Corrosivity:* Steel—high; concrete—low

*Potential for frost action:* Moderate

### **Contrasting Inclusions**

#### **Inclusion 1**

*Classification:* Durixerollic Camborthids, fine-loamy, mixed, mesic  
*Position on landscape:* Inset fans  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

#### **Inclusion 2**

*Classification:* Durixerollic Haplargids, fine, montmorillonitic, mesic  
*Position on landscape:* Slightly concave summits of fan piedmont remnants  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

#### **Inclusion 3**

*Classification:* Xerollic Durargids, loamy, mixed, mesic, shallow  
*Position on landscape:* Slightly convex summits of fan piedmont remnants  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

### **Interpretive Groups**

*Capability classification:* Chiara soil—IVe, irrigated; Hunnton soil—VIs, Chiara soil—VIIs, nonirrigated  
*Range site:* Hunnton soil—025XY019NV; Chiara soil—025XY019NV; Inclusion 1—025XY019NV; Inclusion 2—025XY019NV; Inclusion 3—025XY019NV

## 1030—Chiara silt loam, 2 to 15 percent slopes

### *Map Unit Setting*

*Position on landscape:* Fan piedmonts

### *Composition*

*Major component:*

- Chiara silt loam, 2 to 15 percent slopes—85 percent

*Contrasting inclusions:*

- Inclusion 1: Xerollic Durorthids gravelly loam, 4 to 15 percent slopes—7 percent
- Inclusion 2: Durixerollic Camborthids gravelly loam, 2 to 8 percent slopes—6 percent
- Inclusion 3: Dewar gravelly silt loam, 2 to 8 percent slopes—2 percent

### *Characteristics of the Chiara Soil*

*Classification:* Xerollic Durorthids, loamy, mixed, mesic, shallow

*Position on landscape:* Fan piedmont remnants

*Parent material:* Loess mantle high in content of volcanic ash over mixed alluvium

*Slope range:* 2 to 15 percent

*Elevation:* 5,900 to 6,000 feet

*Dominant present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

### **Climatic Data**

*Average annual precipitation:* About 9 inches

*Average annual air temperature:* About 48 degrees F

*Frost-free period:* About 110 days

### **Typical Profile**

*Depth:* 0 to 4 inches

*Texture:* Silt loam

*Structure:* Platy

*Consistence:* Soft, very friable

*Reaction:* Mildly alkaline

*Salinity:* Less than 2 mmhos per cm

*Depth:* 4 to 19 inches

*Texture:* Silt loam

*Structure:* Subangular blocky

*Consistence:* Slightly hard, very friable

*Reaction:* Moderately alkaline

*Salinity:* 2 to 4 mmhos per cm

*Depth:* 19 inches

*Texture:* Indurated duripan



## Soil and Water Features

*Depth to a hardpan:* 10 to 20 inches  
*Depth to a seasonal high water table:* More than 60 inches  
*Frequency of flooding:* None  
*Permeability:* Moderate  
*Available water capacity:* 3.5 to 4.0 inches  
*Water-supplying capacity:* 8 to 12 inches  
*Runoff:* Medium  
*Hydrologic group:* D  
*Erosion factors (surface layer):* K value—.55; T value—1; wind erodibility group—5  
*Hazard of erosion:* By water—moderate; by wind—slight  
*Shrink-swell potential:* Low  
*Corrosivity:* Steel—high; concrete—low  
*Potential for frost action:* Moderate

## Contrasting Inclusions

### Inclusion 1

*Classification:* Xerollic Durorthids, loamy-skeletal, carbonatic, mesic  
*Position on landscape:* Fan piedmont remnants  
*Distinctive present vegetation:* Wyoming big sagebrush, needleandthread

### Inclusion 2

*Classification:* Durixerollic Camborthids, coarse-loamy, mixed, mesic  
*Position on landscape:* Inset fans  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

### Inclusion 3

*Classification:* Xerollic Durargids, loamy, mixed, mesic, shallow  
*Position on landscape:* Fan piedmont remnants  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

## Interpretive Groups

*Capability classification:* Chiara soil—IVe, irrigated, VIIs, nonirrigated  
*Range site:* Chiara soil—025XY019NV; Inclusion 1—028BY010NV; Inclusion 2—025XY019NV; Inclusion 3—025XY019NV

## 1032—Chiara-Kelk association

### Map Unit Setting

*Position on landscape:* Fan piedmonts and axial-stream flood plains

## Composition

### Major components:

- Chiara silt loam, 2 to 4 percent slopes—50 percent
- Kelk very fine sandy loam, 2 to 8 percent slopes—20 percent
- Kelk very fine sandy loam, 0 to 2 percent slopes—15 percent

### Contrasting inclusions:

- Inclusion 1: Puett gravelly loam, 8 to 30 percent slopes—10 percent
- Inclusion 2: Xerollic Camborthids very gravelly loam, 4 to 15 percent slopes—3 percent
- Inclusion 3: Xerollic Durargids, 2 to 4 percent slopes—2 percent

## Characteristics of the Chiara Soil

*Classification:* Xerollic Durorthids, loamy, mixed, mesic, shallow

*Position on landscape:* Fan piedmont remnants

*Parent material:* Loess mantle high in content of volcanic ash over mixed alluvium

*Slope range:* 2 to 4 percent

*Elevation:* 5,900 to 6,000 feet

*Dominant present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

## Climatic Data

*Average annual precipitation:* About 9 inches

*Average annual air temperature:* About 48 degrees F

*Frost-free period:* About 110 days

## Typical Profile

*Depth:* 0 to 4 inches

*Texture:* Silt loam

*Structure:* Platy

*Consistence:* Soft, very friable

*Reaction:* Mildly alkaline

*Salinity:* Less than 2 mmhos per cm

*Depth:* 4 to 19 inches

*Texture:* Silt loam

*Structure:* Subangular blocky

*Consistence:* Slightly hard, very friable

*Reaction:* Moderately alkaline

*Salinity:* 2 to 4 mmhos per cm

*Depth:* 19 inches

*Texture:* Indurated duripan

## Soil and Water Features

*Depth to a hardpan:* 10 to 20 inches

*Depth to a seasonal high water table:* More than 60 inches

*Frequency of flooding:* None  
*Permeability:* Moderate  
*Available water capacity:* 3.5 to 4.0 inches  
*Water-supplying capacity:* 8 to 12 inches  
*Runoff:* Slow  
*Hydrologic group:* D  
*Erosion factors (surface layer):* K value—.55; T value—1;  
     wind erodibility group—5  
*Hazard of erosion:* By water—slight; by wind—slight  
*Shrink-swell potential:* Low  
*Corrosivity:* Steel—high; concrete—low  
*Potential for frost action:* Moderate

### **Characteristics of the More Sloping Kelk Soil**

*Classification:* Durixerollic Camborthids, fine-silty, mixed,  
     mesic  
*Position on landscape:* Inset fans  
*Parent material:* Loess and some volcanic ash and mixed  
     silty alluvium  
*Slope range:* 2 to 8 percent  
*Elevation:* 5,900 to 6,000 feet  
*Dominant present vegetation:* Bluebunch wheatgrass,  
     Thurber needlegrass, basin wildrye, Wyoming big  
     sagebrush

### **Climatic Data**

*Average annual precipitation:* About 8 inches  
*Average annual air temperature:* About 48 degrees F  
*Frost-free period:* About 110 days

### **Typical Profile**

*Depth:* 0 to 4 inches  
*Texture:* Very fine sandy loam  
*Structure:* Platy  
*Consistence:* Soft, very friable  
*Reaction:* Moderately alkaline  
*Salinity:* Less than 4 mmhos per cm

*Depth:* 4 to 32 inches  
*Texture:* Silt loam  
*Structure:* Subangular blocky  
*Consistence:* Hard, firm  
*Reaction:* Moderately alkaline  
*Salinity:* Less than 8 mmhos per cm

*Depth:* 32 to 60 inches  
*Texture:* Silt loam  
*Structure:* Massive  
*Consistence:* Slightly hard, firm  
*Reaction:* Strongly alkaline  
*Salinity:* 4 to 16 mmhos per cm

### **Soil and Water Features**

*Depth to a seasonal high water table:* More than 60  
     inches

*Frequency of flooding:* None  
*Permeability:* Slow  
*Available water capacity:* 11.0 to 12.0 inches  
*Water-supplying capacity:* 7 to 10 inches  
*Runoff:* Slow  
*Hydrologic group:* C  
*Erosion factors (surface layer):* K value—.49; T value—5;  
     wind erodibility group—3  
*Hazard of erosion:* By water—slight; by wind—slight  
*Shrink-swell potential:* Moderate  
*Corrosivity:* Steel—high; concrete—low  
*Potential for frost action:* Moderate

### **Characteristics of the Nearly Level Kelk Soil**

*Classification:* Durixerollic Camborthids, fine-silty, mixed,  
     mesic  
*Position on landscape:* Axial-stream flood plains  
*Parent material:* Loess and some volcanic ash and mixed  
     silty alluvium  
*Slope range:* 0 to 2 percent  
*Elevation:* 5,900 to 6,000 feet  
*Dominant present vegetation:* Basin wildrye, western  
     wheatgrass, basin big sagebrush, black  
     greasewood

### **Climatic Data**

*Average annual precipitation:* About 8 inches  
*Average annual air temperature:* About 48 degrees F  
*Frost-free period:* About 110 days

### **Typical Profile**

*Depth:* 0 to 4 inches  
*Texture:* Very fine sandy loam  
*Structure:* Platy  
*Consistence:* Soft, very friable  
*Reaction:* Moderately alkaline  
*Salinity:* Less than 4 mmhos per cm

*Depth:* 4 to 32 inches  
*Texture:* Silt loam  
*Structure:* Subangular blocky  
*Consistence:* Hard, firm  
*Reaction:* Moderately alkaline  
*Salinity:* Less than 8 mmhos per cm

*Depth:* 32 to 60 inches  
*Texture:* Silt loam  
*Structure:* Massive  
*Consistence:* Slightly hard, firm  
*Reaction:* Strongly alkaline  
*Salinity:* 4 to 16 mmhos per cm

### **Soil and Water Features**

*Depth to a seasonal high water table:* More than 60  
     inches



*Frequency of flooding:* Rare  
*Permeability:* Slow  
*Available water capacity:* 11.0 to 12.0 inches  
*Water-supplying capacity:* 7 to 10 inches  
*Runoff:* Slow  
*Hydrologic group:* C  
*Erosion factors (surface layer):* K value—.49; T value—5;  
 wind erodibility group—3  
*Hazard of erosion:* By water—slight; by wind—slight  
*Shrink-swell potential:* Moderate  
*Corrosivity:* Steel—high; concrete—low  
*Potential for frost action:* Moderate

### **Contrasting Inclusions**

#### **Inclusion 1**

*Classification:* Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow  
*Position on landscape:* Side slopes of fan piedmont remnants that have a rock core  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

#### **Inclusion 2**

*Classification:* Xerollic Camborthids, coarse-loamy over sandy or sandy-skeletal, mixed, mesic  
*Position on landscape:* Inset fans  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

#### **Inclusion 3**

*Classification:* Xerollic Durargids  
*Position on landscape:* Fan piedmont remnants  
*Distinctive present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

### **Interpretive Groups**

*Capability classification:* Chiara soil—Ive, the more sloping Kelk soil—IIs, irrigated; Chiara soil—VIIIs, Kelk soils—VIs, nonirrigated  
*Range site:* Chiara soil—025XY019NV; the more sloping Kelk soil—025XY019NV; the nearly level Kelk soil—024XY006NV; Inclusion 1—025XY019NV; Inclusion 2—025XY019NV; Inclusion 3—025XY019NV

## **1050—Yody-Dewar association, cool**

### **Map Unit Setting**

*Position on landscape:* Fan piedmonts

### **Composition**

#### *Major components:*

- Yody gravelly sandy loam, 2 to 8 percent slopes—50 percent
- Dewar gravelly silt loam, 2 to 8 percent slopes—35 percent

#### *Contrasting inclusions:*

- Inclusion 1: Chiara silt loam, 2 to 8 percent slopes—8 percent
- Inclusion 2: Xerollic Camborthids very gravelly loam, 0 to 4 percent slopes—5 percent
- Inclusion 3: Parisa gravelly loam, 2 to 8 percent slopes—2 percent

### **Characteristics of the Yody Soil**

*Classification:* Haploxerollic Durargids, fine-loamy, mixed, mesic  
*Position on landscape:* Fan piedmont remnants  
*Parent material:* Alluvium derived from andesite  
*Slope range:* 2 to 8 percent  
*Elevation:* 6,000 to 6,500 feet  
*Dominant present vegetation:* Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

#### **Climatic Data**

*Average annual precipitation:* About 9 inches  
*Average annual air temperature:* About 47 degrees F  
*Frost-free period:* About 110 days

#### **Typical Profile**

*Depth:* 0 to 4 inches  
*Texture:* Gravelly sandy loam  
*Structure:* Platy  
*Consistence:* Slightly hard, very friable  
*Reaction:* Moderately alkaline  
*Salinity:* Less than 2 mmhos per cm

*Depth:* 4 to 30 inches  
*Texture:* Gravelly sandy clay loam  
*Structure:* Subangular blocky  
*Consistence:* Hard, firm  
*Reaction:* Moderately alkaline  
*Salinity:* 2 to 4 mmhos per cm

*Depth:* 30 to 36 inches  
*Texture:* Gravelly sandy loam  
*Structure:* Massive  
*Consistence:* Hard, firm  
*Reaction:* Moderately alkaline  
*Salinity:* 2 to 4 mmhos per cm

372

*Range site:* Yody soil—025XY019NV; Dewar soil—  
025XY019NV; Inclusion 1—025XY019NV;  
Inclusion 2—028BY003NV; Inclusion 3—  
025XY019NV

Depth 0 to 14 inches  
Texture: Clayey loam  
Structure: Subangular blocky  
Consistence: Firm  
Reaction: Moderately alkaline  
pH: 8.5